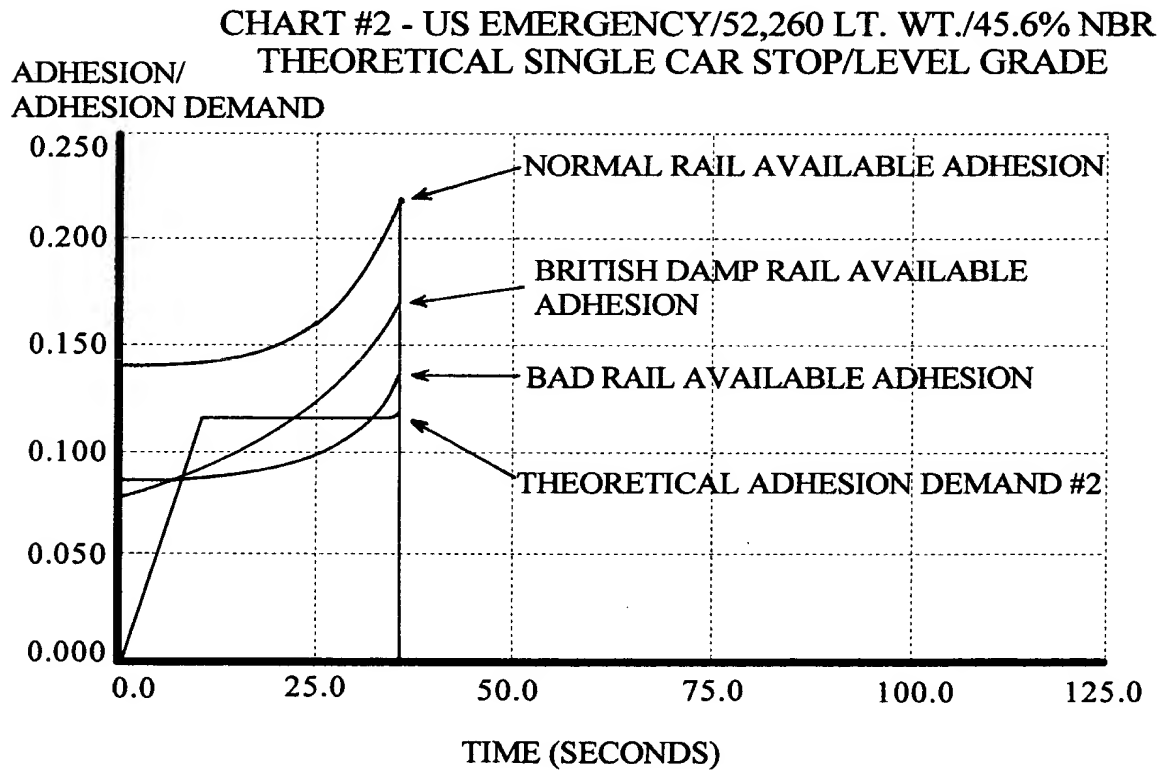
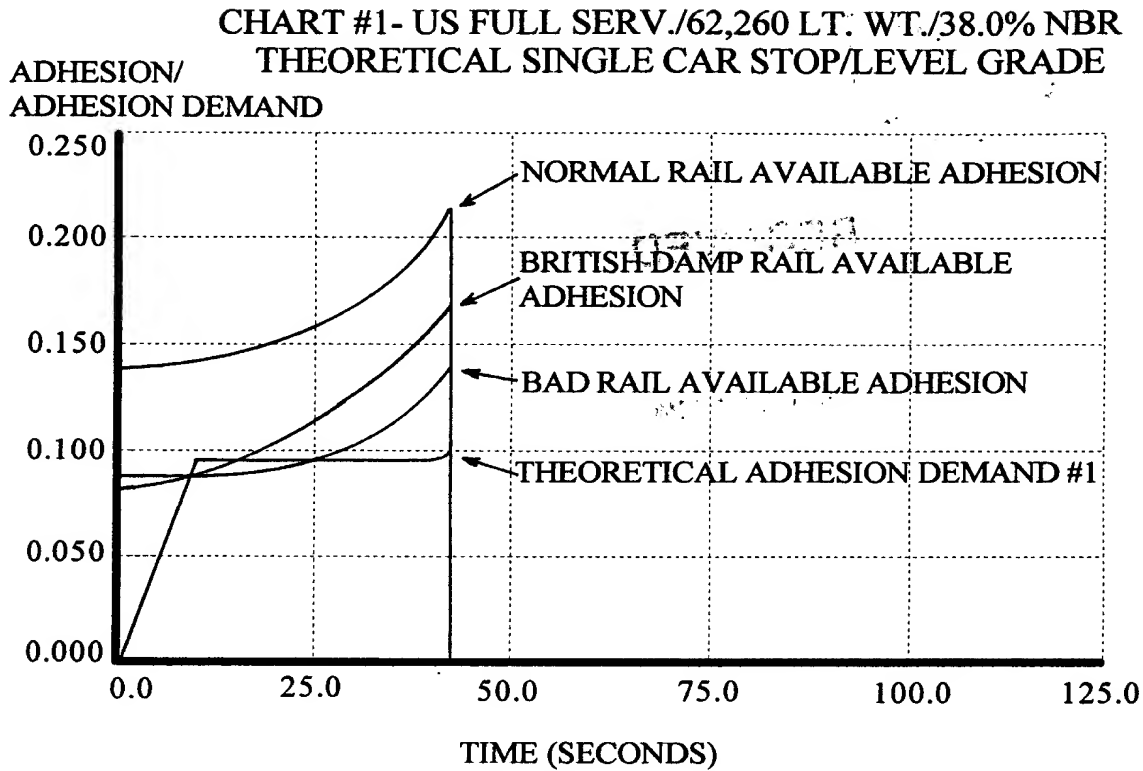


APPROVED	O.G. FIG.
BY	CLASS
DRAFTSMAN	SUBCLASS



APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

CHART #3 - US EMERGENCY/286K GRL/15.5% NBR  
THEORETICAL SINGLE CAR STOP/LEVEL GRADE

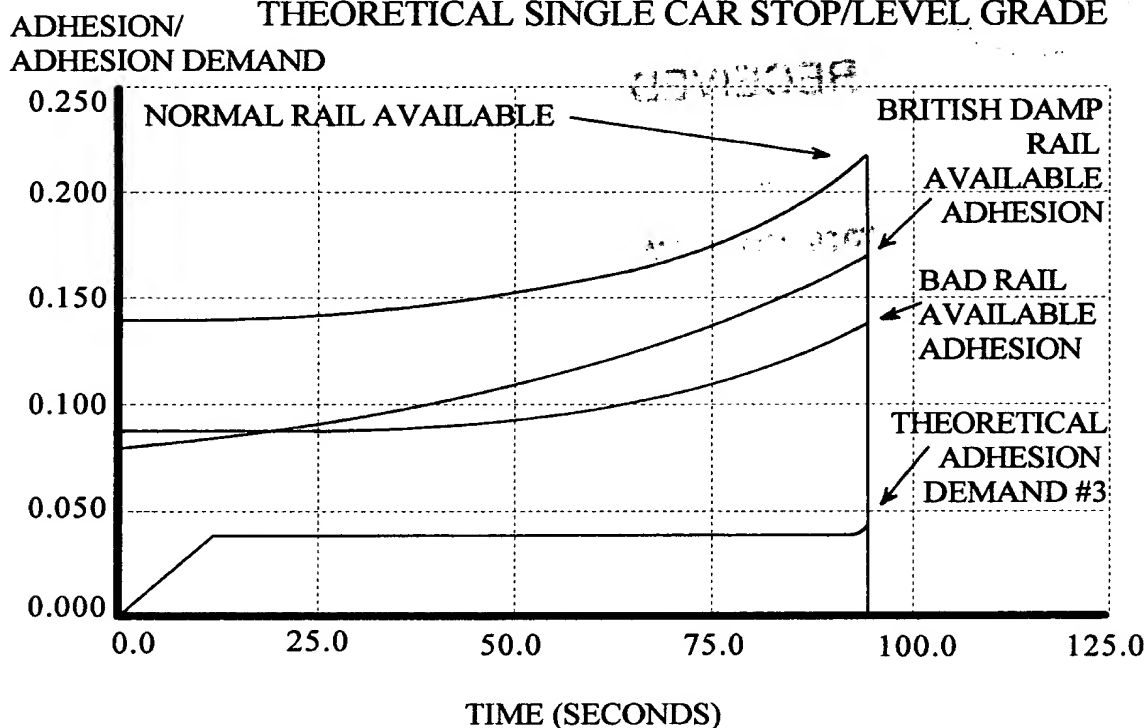
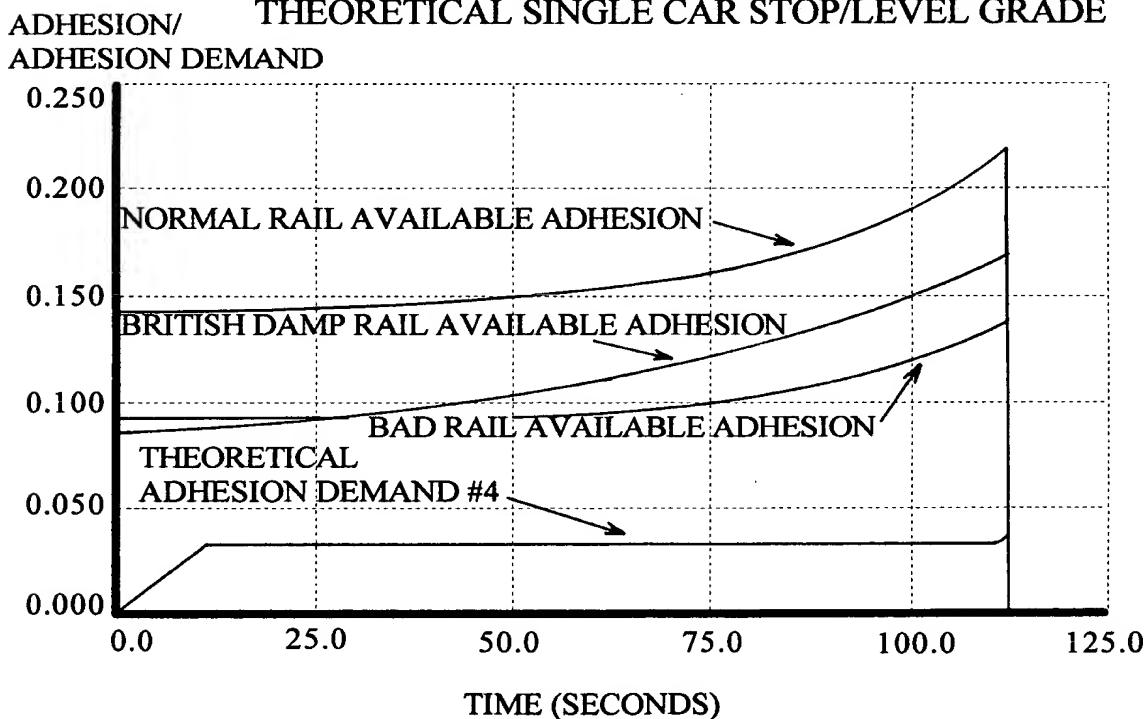


CHART #4 - US FULL SERVICE/286K GRL/13.0% NBR  
THEORETICAL SINGLE CAR STOP/LEVEL GRADE



APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

CHART #5- UK TARE/63,947 LT. WT./29.0% NBR

ADHESION/ THEORETICAL SINGLE CAR STOP/LEVEL GRADE  
ADHESION DEMAND

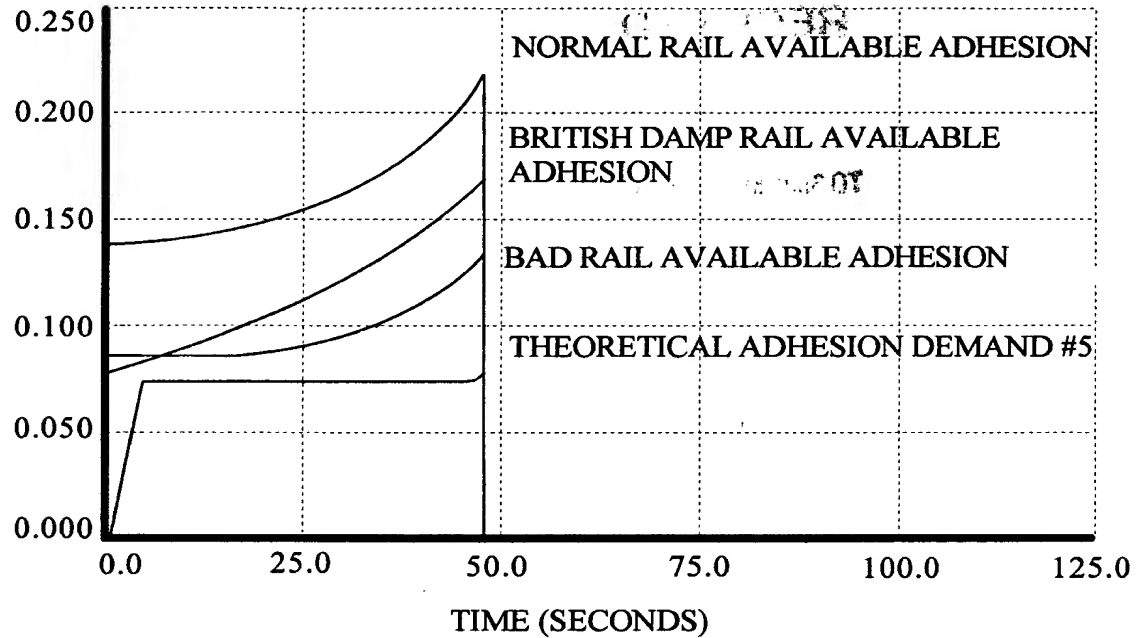
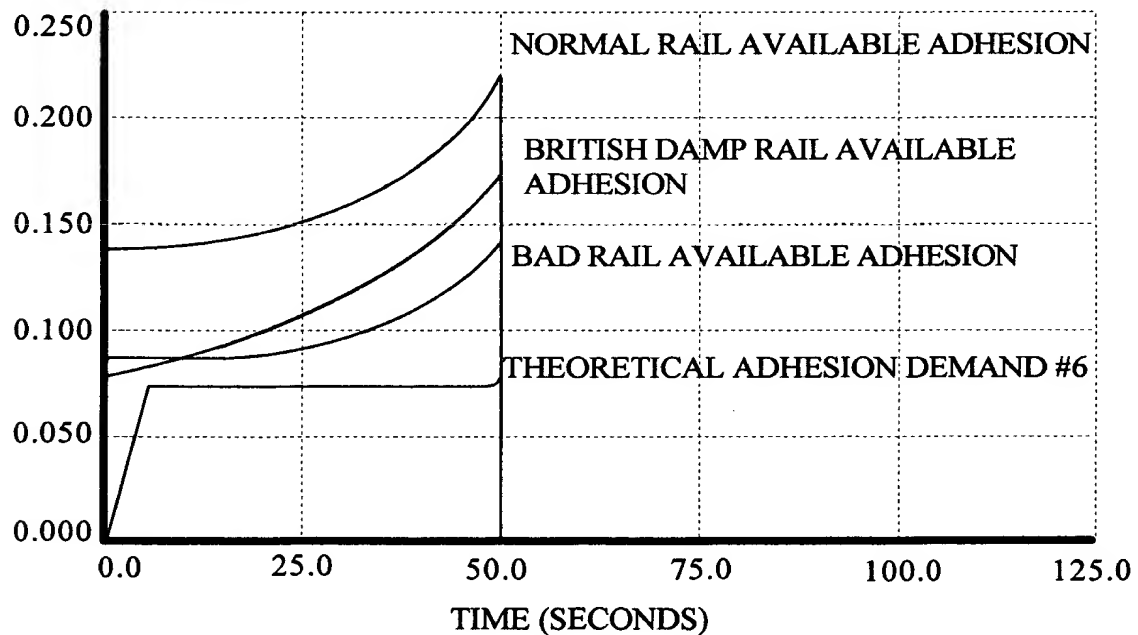


CHART #6 - UK 90 METRIC TON/198.5K GRL/28.6% NBR

ADHESION/ THEORETICAL SINGLE CAR STOP/LEVEL GRADE  
ADHESION DEMAND



APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

CHART #7- UK 102 METRIC TON/225K GRL 28.6% NBR  
THEORETICAL SINGLE CAR STOP/LEVEL GRADE

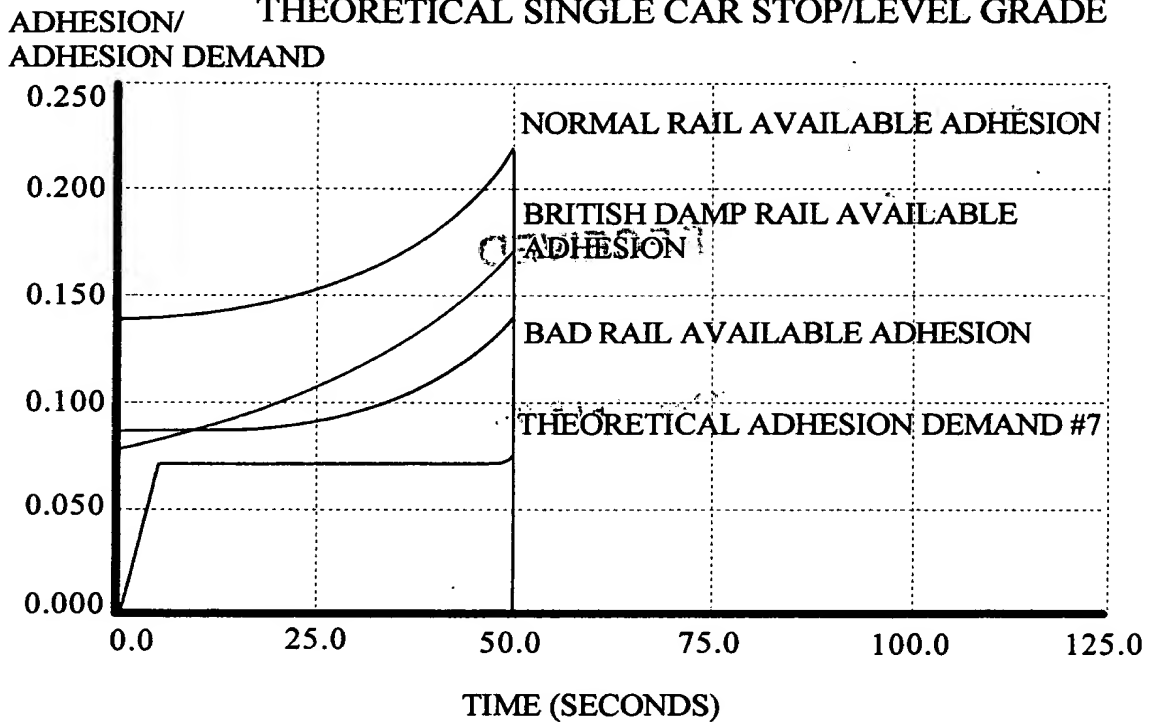


CHART #8 - SINGLE CARE STOP DISTANCES

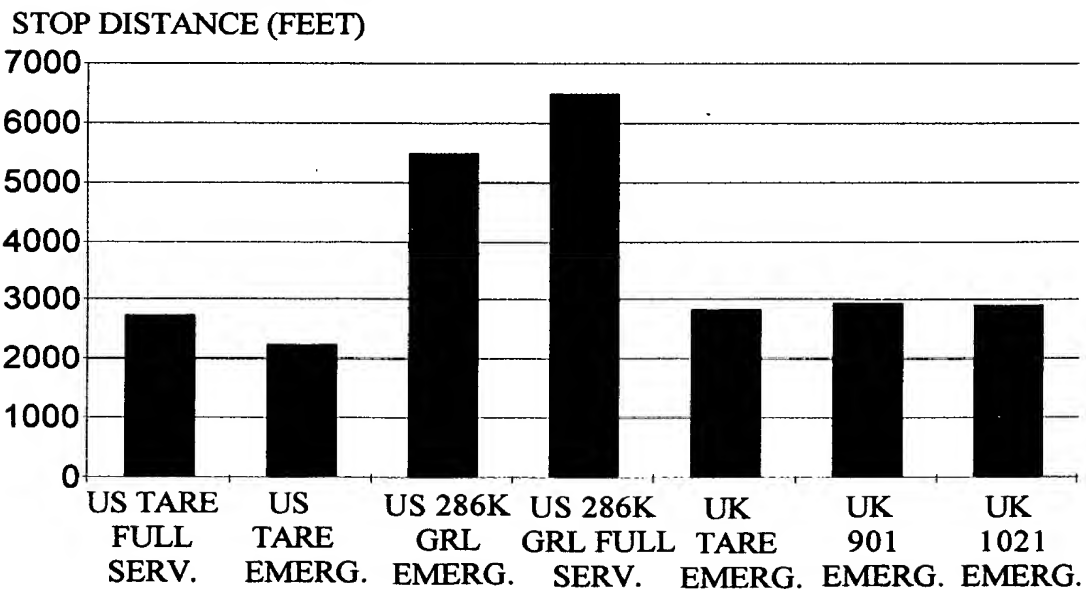
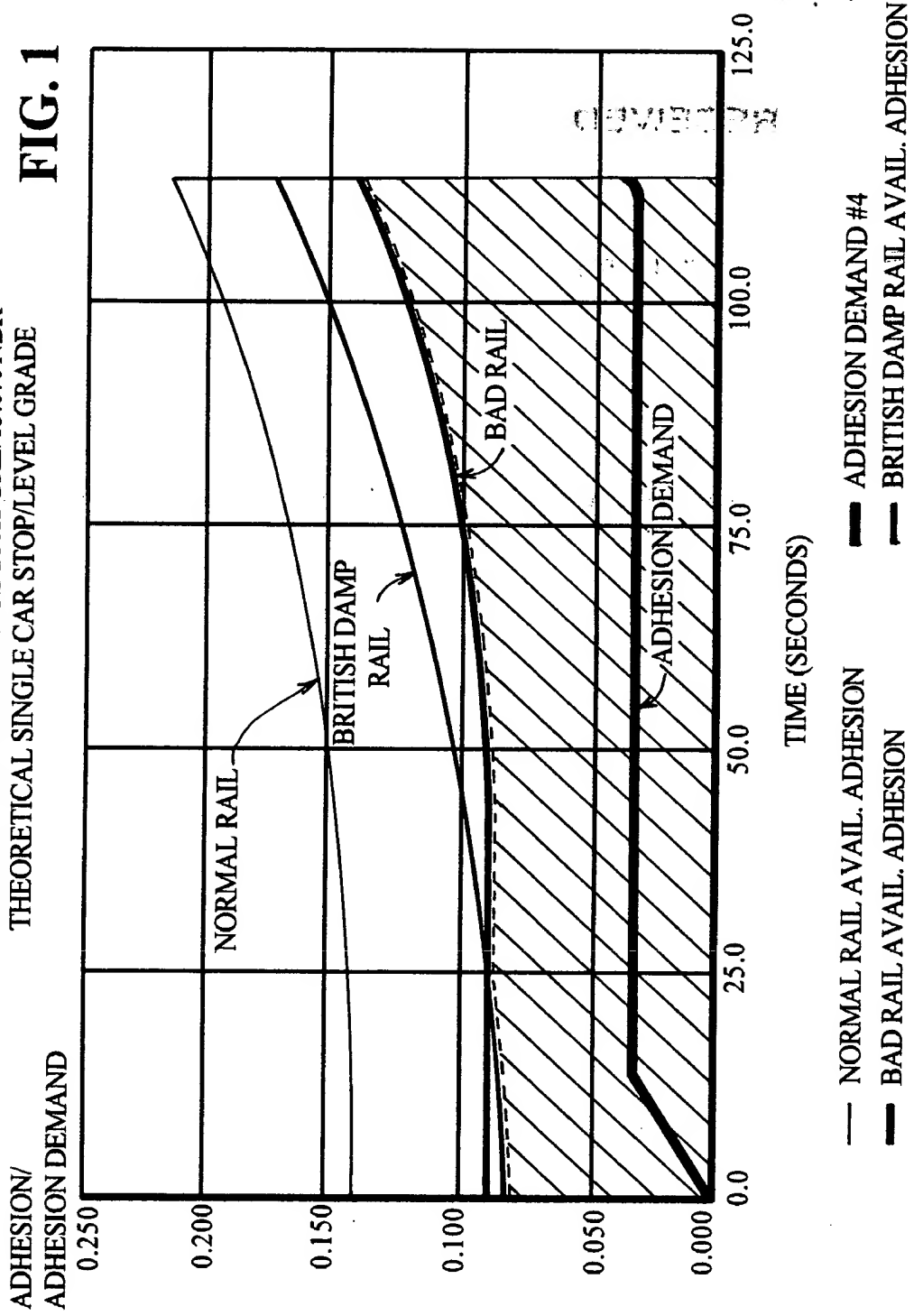


CHART #4 - US FULL SERVICE/286K GRL/13.0% NBR  
THEORETICAL SINGLE CAR STOP/LEVEL GRADE

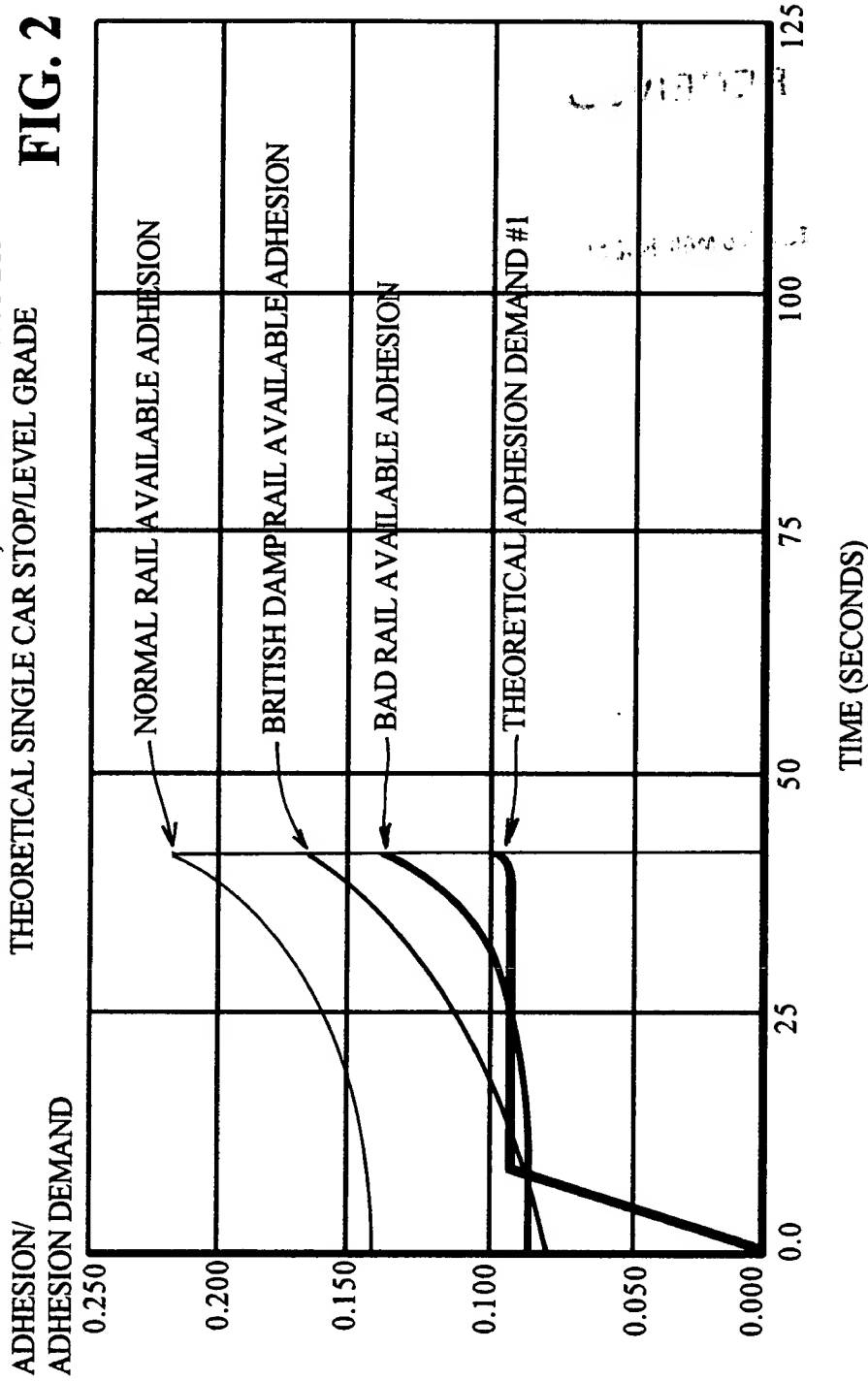
FIG. 1



APPROVED	O.G. FIG.
BY	CLASS
DRAFTSMAN	SUBCLASS

CHART #1 - US FULL SERVICE/52,260 LT. WT./38.0% NBR  
THEORETICAL SINGLE CAR STOP/LEVEL GRADE

FIG. 2



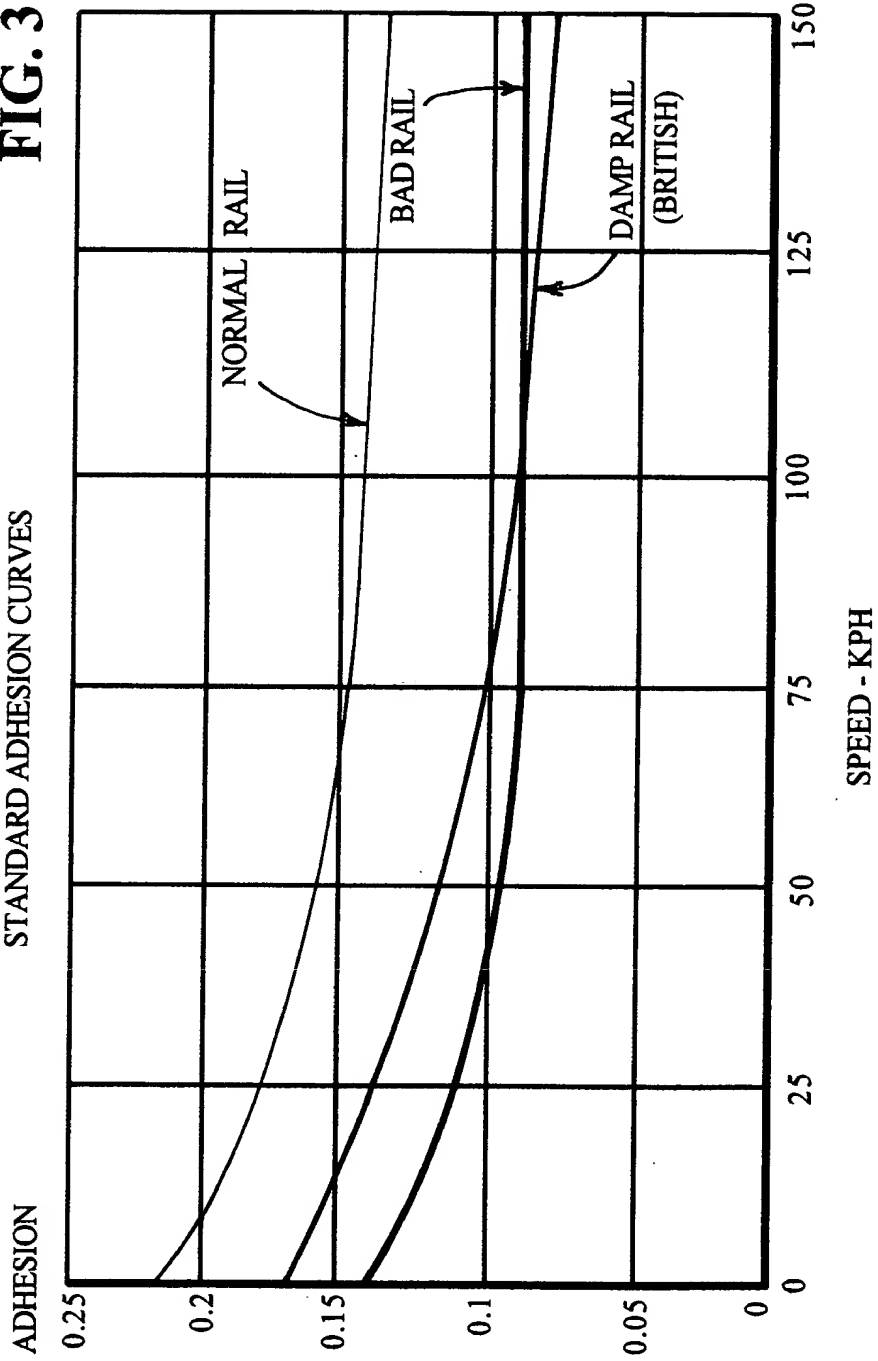
APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

REVISION

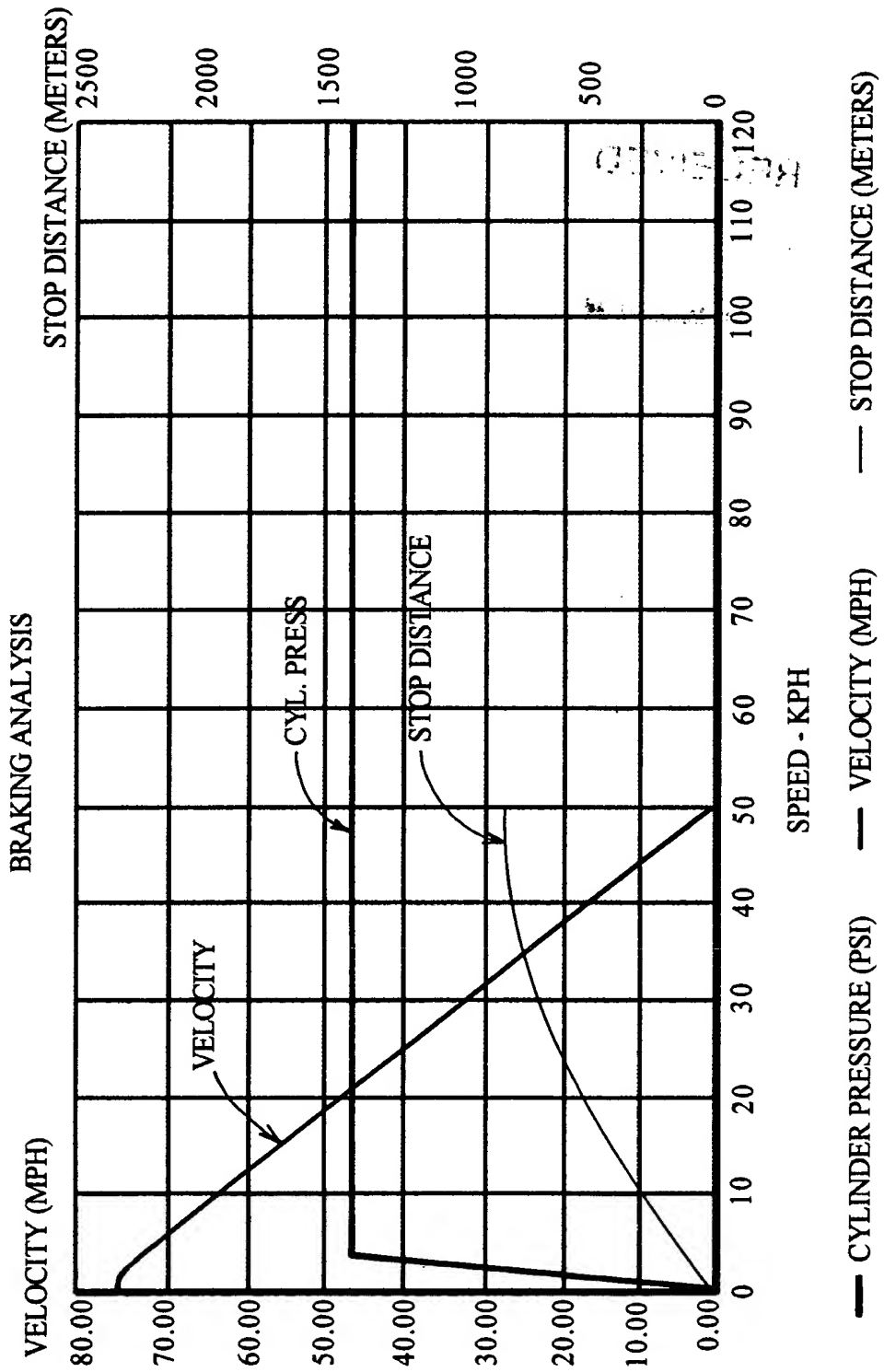
DATE - 11/10/01

FIG. 3

STANDARD ADHESION CURVES



APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

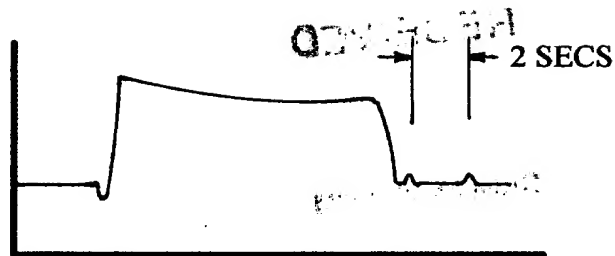


**FIG. 4**

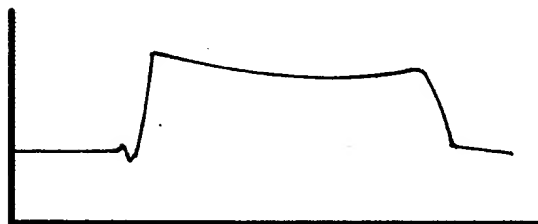


APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

TEST 14  
58.8 MILE/HR.

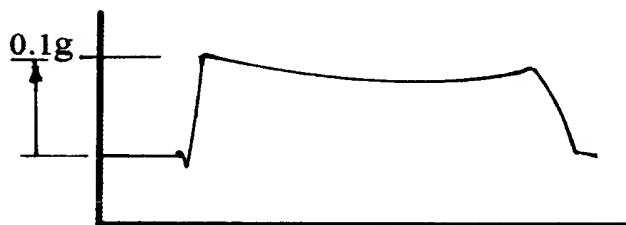


TEST 12  
65.5 MILE/HR.



CHANGE IN DECELERATION  
DUE TO BREAK SHOE FADE

TEST 10  
72.9 MILE/HR.



DECELERATION →

**FIG. 5**